Project Brief

# **Introduce a problem to (hypothetically) analyze**

Can we see trends in restaurant employment and grocery prices pre-pandemic and then more recently in the last year? (will need to ignore 2020/2021 data for obvious reasons).

One page description of the problem including (8pts)

* Overview of the project's goals and its importance.
* Who should care
* Who should be empowered to act
* What types of actions might be recommended
* Feasibility, does this data exist somewhere?
* Is it freely available?

Minnesota and in particular the Minneapolis metropolitan area has a wide variety of foods from all kinds of ethnic backgrounds. [According to a 2019 study](https://mn.gov/deed/newscenter/publications/review/august-2019/locations-restaurants.jsp), Minneapolis has 2.7 restaurants per thousand people, indicating a thriving restaurant industry. Our goal is multi-fold – one would be to see if wages for the restaurant/hospitality industry are keeping up with inflation by way of CPI analysis, second is to see if grocery prices impact restaurant employment/wages, and third is to see if particular neighborhoods in Minneapolis have more restaurants than others and does this correlate with lake/pond area within those neighborhoods?

To be fair, I think everyone in the Twin Cities metro should care as we are all contributors, customers, and taxpayers and thereby have influence over restaurant employment and wages. However, to make it more specific, I think restaurant owners, employees, and city councilpersons should care the most so they can make data-based decisions on where to open an establishment, what fair pay is, and to write policies that truly advocate for workers and help the economy of the metro grow.

In recent years we’ve seen a rise of restaurant hospitality workers push for unionizing and advocating for their rights and working conditions. These attempts have not been very successful with pushback from restaurant owners and little to no support from local politicians. Just this month one of the largest hospitality companies in the Twin Cities, First Avenue, had [200 workers state their intent to unionize](https://www.startribune.com/first-avenue-200-hospitality-workers-move-unionize-organized-labor-movement-minneapolis-music-venue/600316831/). Based on the final analysis, our data could empower these movements as they fight for their causes. Our curated dataset and analysis could be important to them and provide them data points to give support to the stories they have to share from their personal experiences.

In terms of feasibility of the data, we have run into some obstacles with obtaining good employment data, but we found some workarounds by downloading the data behind Tableau workbooks on [MN DEED site pages](https://mn.gov/deed/data/current-econ-highlights/qcew-econ-highlights.jsp). As for other data - we will be using the Minneapolis Neighborhoods data from class and there are plenty of data sources for grocery prices over time. The data we are planning on using for the project is free, but for a lot of restaurant data that we were looking into during ideation phase had some costs. If we had a budget, we would have loved to incorporate cuisine/menu data in there to show trends of diversity alongside census demographic data.

**ROUGH**

* See how wages have gone up in parts of cities and compare this to the cpi of grocery items (rice, flour)
* Look at “[Parts of Cities](https://mn.gov/deed/data/current-econ-highlights/qcew-econ-highlights.jsp)” and create our own data set of employment by industry over time by neighborhood. (Specifically **Minneapolis → to match it to the Minneapolis Geospatial dataset).** Fields to add
  + Neighborhood name
  + Zip code
  + Employment
  + Avg. Annual Wage
  + Establishments
  + Total jobs in neighborhood
  + See the concentration of food industry employment versus all employment
    - Are certain neighborhoods heavier in a particular industry than others?
  + Link to [sample sheet](https://docs.google.com/spreadsheets/d/1u27M008wnAvt18bh-XLnRYsQ_WtCS35w2KiWnjvF21c/edit?usp=sharing)
* **Time series bit**:
  + Change in grocery prices and restaurant wages and see how they have gone up per inflation or how they differ from it.
  + Do people go out of their way to eat at a restaurant where its green
    - Geospatial bit. Use classification table
    - Restaurants which have more baseball fields/greenery/ <insert classification> do they have more establishments (restaurants) or higher avg. annual wage, any particular trend.
* **Feature ideas**:
  + % of restaurant jobs vs total jobs in neighborhood
  + Nominal vs real wages (from wage data, grocery cpi data)
  + National inflation rate and compare with nominal wage and grocery price.
    - Create feature % change in annual wages
  + Geospatial: Classification. Do neighborhoods have a higher % of lakes/ponds see more restaurant establishments or see higher avg. annual wage
  + % change in establishments
  + % change in employment

# **Additional document/table (2pts)**

# **Weekly plan for data enrichment (our class project)**

# **Who will do what and when.**

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| **Objective** | **Target Completion Date** | **Person responsible** |
| --- | --- | --- |
| **Data Curation** |  |  |
| Data Dictionary | 11/30 | Mamta |
| Data Annotation | 11/18 | Hashim & Arun |
| Related Documentation | 11/18 | Hashim |
| Combined Data Documentation | 12/01 | All of us |
|  |  |  |
| **Feature Engineering** |  |  |
| New Features | 11/28 | Hashim & Mamta |
| Missing/Bad data | 11/21 | Arun |
| Add README | 12/01 | All of us |
|  |  |  |
| **Presentation** | 12/03 | All of us |

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